Increased Lysine Production by Gene Amplification

Abstract

The invention provides methods to increase the production of an amino acid from Corynebacterium species by way of the amplification of amino acid biosynthetic pathway genes in a host cell chromosome. In a preferred embodiment, the invention provides methods to increase the production of L-lysine in Corynebacterium glutamicum by way of the amplification of L-lysine biosynthetic pathway genes in a host cell chromosome. The invention also provides novel processes for the production of an amino acid by way of the amplification of amino acid biosynthetic pathway genes in a host cell chromosome and/or by increasing promoter strength. In a preferred embodiment, the invention provides processes to increase the production of L-lysine in Corynebacterium glutamicum by way of the amplification of L-lysine biosynthetic pathway genes in a lost cell chromosome. The invention also provides novel isolated nucleic acid molecules for L-lysine biosynthetic pathway genes of Corynebacterium glutamicum.

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